(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 19 February 2004 (19.02.2004)

PCT

(10) International Publication Number WO 2004/014302 A3

(51) International Patent Classification7: A61K 48/00

C12N 15/85,

SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number:

PCT/US2003/024600

(22) International Filing Date: 6 August 2003 (06.08.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/402,050

9 August 2002 (09.08.2002) US

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(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,

KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,

(84) Designated States (regional): ARIPO patent (GH, GM,

GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to the identity of the inventor (Rule 4.17(i)) for all designations
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report: 13 May 2004

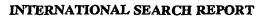
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the begin-

ning of each regular issue of the PCT Gazette.

(54) Title: MECHANISMS OF MYOBLAST TRANSFER IN TREATING HEART FAILURE

(57) Abstract: Bioengineering the regenerative heart provides a novel treatment for heart failure. On May 14, 2002, a 55-year-old man suffering ischemic myocardial infarction received 25 injections carrying 465 million cGMP-produced pure myoblasts into his myocardium after coronary artery bypass grafting. Three myogenesis mechanisms were elucidated with 17 human/porcine xenografts using cyclosporine as immunosuppressant. Some myoblasts developed to become cardiomyocytes. Others transferred their nuclei into host cardiomyocytes through natural cell fusion. As yet others formed skeletal myofibers with satellite cells. De novo production of contractile filaments augmented heart contractility. Human myoblasts transduced with VEGF₁₆₅ gene produced six times more capillaries in porcine myocardium than placebo. Xenograft rejection was not observed for up to 20 weeks despite cyclosporine discontinuation at 6 weeks.





International application No.

PCT/US03/24600

A. CLASSIFICATION OF SUBJECT MATTER			
IPC(7) : C12N 15/85; A61K 48/00 US CL : 435/325; 514/44			
According to International Patent Classification (IPC) or to both national classification and IPC			
B. FIELDS SEARCHED			
Minimum documentation searched (classification system followed by classification symbols) U.S.: 435/325; 514/44			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched .			
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) STN: EMBASE BIOSIS CAPLUS			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where a		Relevant to claim No.
$\frac{\mathbf{x}}{\mathbf{y}}$	SUZUKI, K. et al. Cell Transplantation for the Treatment of Acute Myocardial Infarction Using Vascular Endothelial Growth Factor-Expressing Skeletal Myoblasts. Circulation. 18 September 2001, Vol. 104, [suppl 1]. pages I-207-I-212 especially page I-209.		1-4,8 5-7, 9
A	POWELL, C. et al. Tissue-Engineered Human Bioartificial Muscles Expressing a Foreign Recombinant Protein for Gene Therapy. Human Gene Therapy. 01 March 1999, Vol. 10, No. 4, pages 565-577.		1-20
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	documents are listed in the continuation of Box C.	See patent family annex.	
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		Date of mailing of the international search report	
06 February 2004 (06.02.2004) Name and mailing address of the ISA/US Authorized officer			
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450		Reint Yacel Ph.D.	
Alexandria, Virginia 22313-1450 Telephone No. 703-308-0196 . Facsimile No. (703) 305-3230			

Form PCT/ISA/210 (second sheet) (July 1998)